

REMARKS

The present response is submitted in reply to the Office Action issued on September 14, 2009. The Applicants thank the Examiner for the withdrawal of the finality of the previous Office action. Claims 3 and 6-8 are pending in this application, all of which have been rejected. By the present response, 3 and 6-8 are canceled and new claims 9-11 are added. No new matter has been added. Reconsideration is respectfully requested in light of the following remarks.

Rejection of claims 3 and 6-8 under 35 U.S.C. 112, first paragraph

Claims 3 and 6-8 have been rejected under 35 U.S.C. 112, first paragraph, because the specification, while being enabling for activity of three pleuromutilin compounds against five different *H. pylori* strains, does not reasonably provide enablement for the treatment of all diseases mediated by *H. pylori* with all pleuromutilins. The Examiner states that the specification does not enable one skilled in the art to use the invention commensurate in scope with these claims. In particular, the Examiner states that the specification fails to provide information that would allow one skilled in the art to practice the instant invention without undue experimentation.

At page 4 of the Office action, the Examiner states that the determination of a particular claimed compound in the treatment of diseases mediated by *H. pylori* requires that the compound be synthesized, formulated in a suitable dosage form and tested in a known assay that is correlated with clinical efficacy and that the examples presented in the specification are *in vitro* tests that show three different pleuromutilins that have an effect on five different strains of *H. pylori*. Further, the Examiner states that the

Applicants have shown the state of the art regarding the connection between *H. pylori* and diseases such as peptic ulcer and gastric adenocarcinoma. However, the Examiner further states that there is no data presented in the specification indicating that all pleuromutilins will be effective in any disease associate with *H. pylori*.

The Examiner also states that a review of the literature indicates that *H. pylori* has implications in many other disease states, such as cardiovascular disease. Therefore, the Examiner concludes that *H. pylori* is involved in other disease states of which the present invention does not teach that targeting *H. pylori* for treatment will effectively treat the many diseases that *H. pylori* is involved in.

The Examiner further states that the prior art points out therapies for the management of *H. pylori*, which include proton pump inhibitors and ranitidine bismuth, among other treatment regimens. Therefore, the Examiner concludes that there is no indication that the various types of pleuromutilins that are available will effectively treat diseases associated with *H. pylori*.

The Applicants respectfully request that the aforementioned rejection be withdrawn, as discussed below. It is respectfully submitted that the method of influencing, e.g., inhibiting *H. pylori* activity by treatment with a pleuromutilin as claimed is clearly and unambiguously shown in accordance with the presently claimed invention. Thus, withdrawal of the non-enablement rejection is requested.

The Applicants submit that according to the present invention, it was found for the first time that the activity of *H. pylori* influences, e.g., inhibited by treatment with a pleuromutilin. It is not disputed that pleuromutilins have been known in the art for some

time. However, what was not known was that pleuromutilins may influence, e.g., inhibit *H. pylori* activity. There is in fact no indication or teaching in any relevant prior art that can support the position that pleuromutilins could exhibit an influence on *H. pylori* prior to the present invention.

Regarding the issue of enablement, it is further submitted that numerous pleuromutilins and their preparation are known in the art and one skilled in the art would be able to readily prepare the present invention by provision of a pleuromutilin, e.g., providing a pleuromutilin known in the art and testing its influence on *H. pylori* activity in accordance with the present specification.

It is further noted that the compounds used for comparison, namely, metronidazol and tetracycline, are used in the standard therapy for eradicating *H. pylori*. The effect of the antibacterial, e.g., metronidazol in the standard therapy is inhibiting the growth of *H. pylori*. Therefore, it is submitted that the MIC comparison in the specification is highly relevant and is not just proving activity of pleuromutilins against *H. pylori*. Moreover, it is submitted that the activity of the pleuromutilins is better than the compounds which are employed in the standard therapy. For example, paragraph [0288] of the specification states that the “[r]esults of minimum inhibitory concentrations (MIC in µg/ml)) of TC-I, TC-II and TC-III and of metronidazole (MET) and tetracycline (TEC) in vitro tests against *Helicobacter pylori* (*H. pylori*) strains as set out in TABLE TEST are as set out in TABLE TEST below:

TABLE TEST

Bacterial Strain/	MIC (μ g/ml)				
ATCC number	TC-I	TC-II	TC-III	MET	TEC
H.pylori/43504	0.025	<0.0125	0.025	128	0.4
H.pylori/43526	0.05	0.05	0.05	4	0.4
H.pylori/43629	<0.0125	<0.0125	<0.0125	128	0.4
H.pylori/49503	<0.0125	0.025	0.025	4	0.2
H.pylori/51652	0.025	0.025	0.025	2	0.2

Still further, pleuromutilins overcome the resistance observed with metronidazol which is still used as standard therapy (see, for example, Malfertheiner P, et al. (enclosed)) although metronidazol resistance is recognized in literature as a cause for treatment failure (see, for example, Midolo, et al. (enclosed)).

In view of the above arguments and amendments, withdrawal of the rejections and objections is respectfully requested.

Conclusion

In light of the foregoing claims and arguments, it is believed that the present application is in condition for allowance, and such action is earnestly solicited. The Examiner is invited to call the undersigned if there are any remaining issues to be discussed which could expedite the prosecution of the present application.

Respectfully submitted,

Date: December 14, 2009

D. Peter Hochberg Co., L.P.A.
1940 E. 6th St. – 6th Floor
Cleveland, OH 44114
(216) 771-3800

By: D. Peter Hochberg
D. Peter Hochberg
Reg. No. 24,603